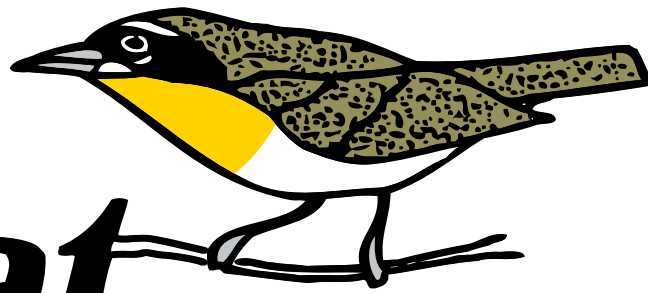


# The

# Chat



Volume 58  
Number 6

**Columbia Audubon Society**  
<http://columbia-audubon.org>

February 2016

Serving Audrain, Boone, Cooper, Howard, Monroe and Randolph Counties

The mission of the Columbia Audubon Society is to preserve the natural world and its ecosystems, focusing on birds, other wildlife, and the earth's biological diversity, through education, environmental study, and habitat restoration and protection.

## FUNDRAISING SUCCESS THROUGH COMOGIVES CAMPAIGN

CAS had great success in its first year of participation in CoMoGIVES, the web-based fundraising campaign sponsored by the Community Foundation of Central Missouri. We raised \$3,855 through 47 separate gifts, which placed CAS 25th of 71 organizations in the total amount of money raised. The gifts ranged from \$10 to \$1000 and donors included both CAS members and non-members. CAS is grateful to Edge Wade for providing signed David Plank bird prints as gifts for donors who contributed a minimum of \$50 or \$100.

The funds raised from this campaign will be used to continue supporting our community-based activities, such as implementing the "Band with Nature" field trips for 2nd graders, sponsoring older children on Columbia Public School summer trips to the Teton Mountains, and sending teachers to Audubon's summer nature camp at Hog Island, Maine. The CAS Board of Directors is also exploring funding an educational, entertainment event for local birders. Thank you to all who contributed to CAS through CoMoGIVES. We are proud of our success and looking forward to participating again in December.

*- by Kris Hagglund, CAS President*

## IN THIS ISSUE

**Back issues of  
birding magazines**

**Upcoming meetings**

**Christmas Bird Count  
special issue:**

- CAS CBC quiz
- Population changes
- Effects of habitat

**Upcoming field trips**

**Edited by**

Eric Reuter, (573) 474-0989  
[eric@cherthollowfarm.com](mailto:eric@cherthollowfarm.com)

## BACK ISSUES OF BIRDING MAGAZINES AVAILABLE

Bill Clark has a large set of back issues from a wide variety of birding and conservation magazines, and he'd like to pass them along to any interested parties. The collection includes content from the following:

- Birding
- Cornell Publications
- Auk
- Audubon
- Birdwatcher's Digest
- State journals from across the Midwest and Canada
- Birdwatching
- Webster Groves NSS newsletter
- Missouri Conservationist
- Maps from MDC conservation areas
- National Geographic

Contact Bill Clark, 3906 Grace Ellen Dr, Columbia MO, 65202, or (573) 474-4510.

## UPCOMING MEETINGS

*All meetings are held at the Unitarian-Universalist Church, 2615 Shepard Blvd, Columbia.*

### **Wednesday, February 17, 2016, 7:00 p.m.**

**Presenter:** John Faaborg

Professor of Biological Sciences studying Avian ecology, behavior, and conservation. John will speak to climate change's effect on birds, and his own research.

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### **Wednesday, March 16, 2016, 7:00 p.m.**

**Presenter:** Mary Nemecek, Burroughs Audubon Society

Neonicotinoids have become a widely used class of pesticides with increasing scrutiny on the impact they might have with honey bees. But what about birds and people? How do they compare with the pesticides that came before? How do they interact with the environment today and what implications are there in the future?

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### **Wednesday, April 20, 2016, 7:00 p.m.**

**Presenter:** Mark Glenshaw

Mark Glenshaw is an award-winning naturalist who has closely observed and documented Great Horned Owls in Forest Park since December 2005. Mark's talk will cover how he found these owls, basic facts about the species and the different behaviors he sees with photos and videos to illustrate these behaviors.

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### **Wednesday, May 18, 2016**

Spring Picnic, more details TBA.

## COLUMBIA, MO CHRISTMAS BIRD COUNT: QUIZ!

The following eight pages present a selection of data and results from the full history of the Columbia-area Christmas Bird Count circle. Test your CBC instincts and knowledge, then look for answers in the article that follows.

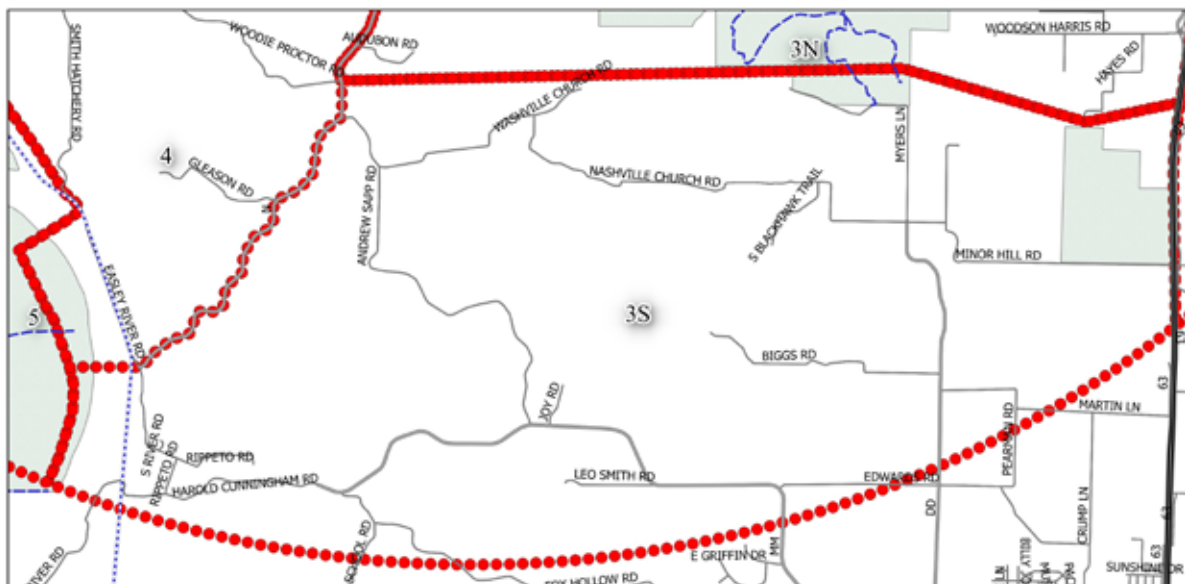
### For the Columbia, MO Christmas Bird Count:

1. What 15 species have been tallied in every single count year? Hints below.
2. What species holds the all-time record for the highest count of individuals within a species on a count day?
3. What was the year of the first count? In what year did the current string of consecutive counts begin?
4. How many species, total, have been observed in the count's history (on count day)?
5. What species have been seen during the count week but never on count day?
6. Which one species has not been counted since 2003, but was recorded on every count from 1960 to 1996, and also in 1998, 2001, and 2003?
7. Some species were not present for early counts but have become routine since. For each of the following years, name the species that made its first appearance in the given year: 1974, 1980, 1987, 1998, 2002. (Hint: No water birds included here.)
8. What major habitat alteration in the count circle has had a big effect on bird species and numbers, increasing both?
9. Which year's count day holds the record for snowiest? How much did it snow?

*Hint for question 1: The species include 1 raptor, 4 woodpeckers, & 10 passerines.*

*Hint for question 2: It is in Family Icteridae.*

*Hint 2 for question 1: The passerines include 3 sparrows, 2 corvids, 1 finch, & 4 others.*



One of twelve designated birding zones within the Columbia CBC circle

# COLUMBIA, MO CHRISTMAS BIRD COUNT: DATA EXPLORATION

## Introduction

Each year, on a designated day near the solstice, volunteers bird a 15 mile diameter circle centered on Rock Bridge Elementary School. This is one of a multitude of circles monitored through the National Audubon Society Christmas Bird Count program, which was established in 1900. The Columbia count has data for three years in the 1930s, plus annual data since 1960. As the sponsoring organization for this circle, the Columbia Audubon Society provides the volunteer effort to collect and submit the data. The data sets are managed, owned, and provided by the National Audubon Society through the Audubon Christmas Bird Count Historical Data website: <http://netapp.audubon.org/CBCObservation/Historical/ResultsByCount.aspx>.



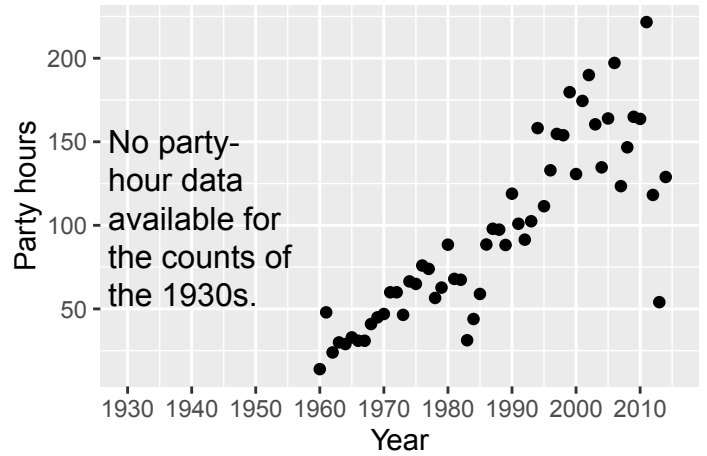
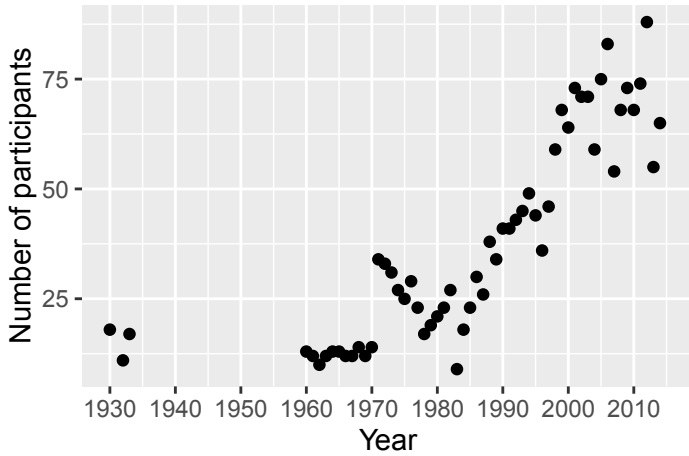
## Data caveats and technicalities

The Christmas Bird Count data set is a valuable resource, given the relatively long history and reasonably consistent methods over time. But the data set still represents a snap shot from a single day each year with variable weather and resulting effects on bird activity. Over time, more and different people have taken part and birding resources have changed (new bird identification resources, better binoculars, more and better cameras that are helpful for documenting rarities). These are details to keep in mind when interpreting the data.

Converting data from the National Audubon format into something useable for this article required considerable data wrangling. Data challenges included: handling data for species that have been split or lumped by taxonomists over the years, handling data for birds that were seen but couldn't be identified to species in the field (for example, swan sp., duck sp., and sparrow sp.), handling cases with subspecies-level reporting, and handling discrepancies between data from the chapter and data from the Audubon database. In general, I used current species definitions as defined by the AOU, <http://checklist.aou.org/>. The assumptions, corrections, and data management choices I made, while not necessarily perfect, are documented and reproducible.

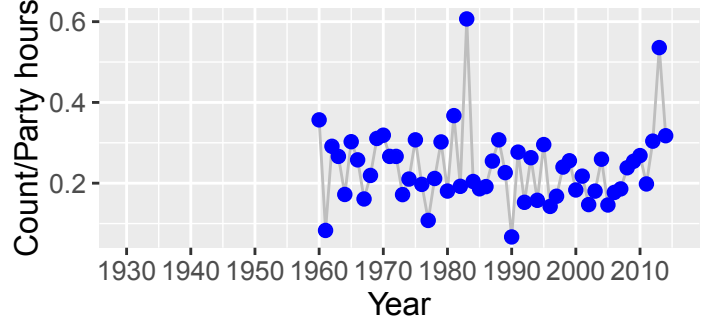
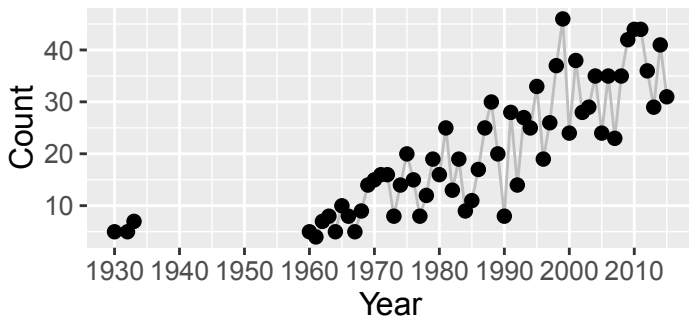
## Participation over time

Participation has generally increased over the years, ranging from a record low of 10 (1962) to 88 (2012); 2015 ranked 3rd in number of participants with 82. The effort spent on counting is quantified by “party hours”, meaning the collective hours spent birding by each group of people working together (not each individual person).



The number of party hours is important, as it is typically used to normalize bird data by effort. For example:

### Hairy Woodpecker

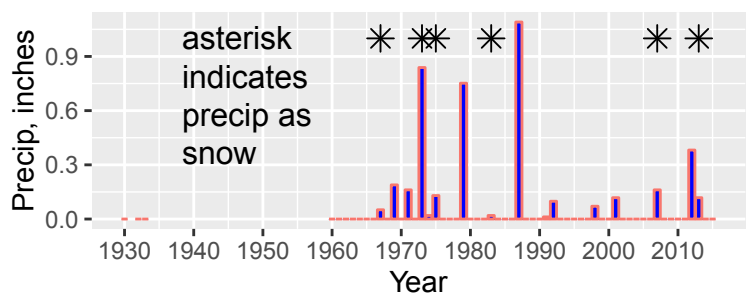
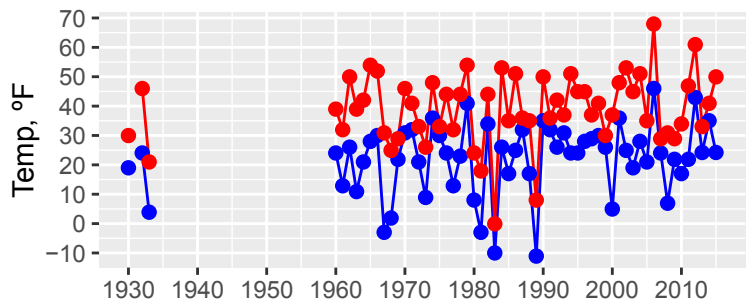


Total Hairy Woodpecker counts have trended up over time, but so has effort. Are there more woodpeckers, or just more birders reporting a stable population? Dividing count data by party hours helps explore this idea by normalizing the numbers.

## Count-day weather

The count proceeds on the designated date regardless of weather, so conditions have been variable. 2006 holds the record for warmth (68°F high ; 46°F low); 1983 put the brr into the bi-rrrd count (0°F high; -10°F low). All owls may have seemed snowy in 1973, when 0.84” of liquid-equivalent precipitation came down as 11.2” of snow. 2015 was dry & mild, with a low of 24°F (avg count-day low = 22°F) and a high of 50°F (avg count-day high = 39°F). [All weather data from NWS.]

### Count-day weather

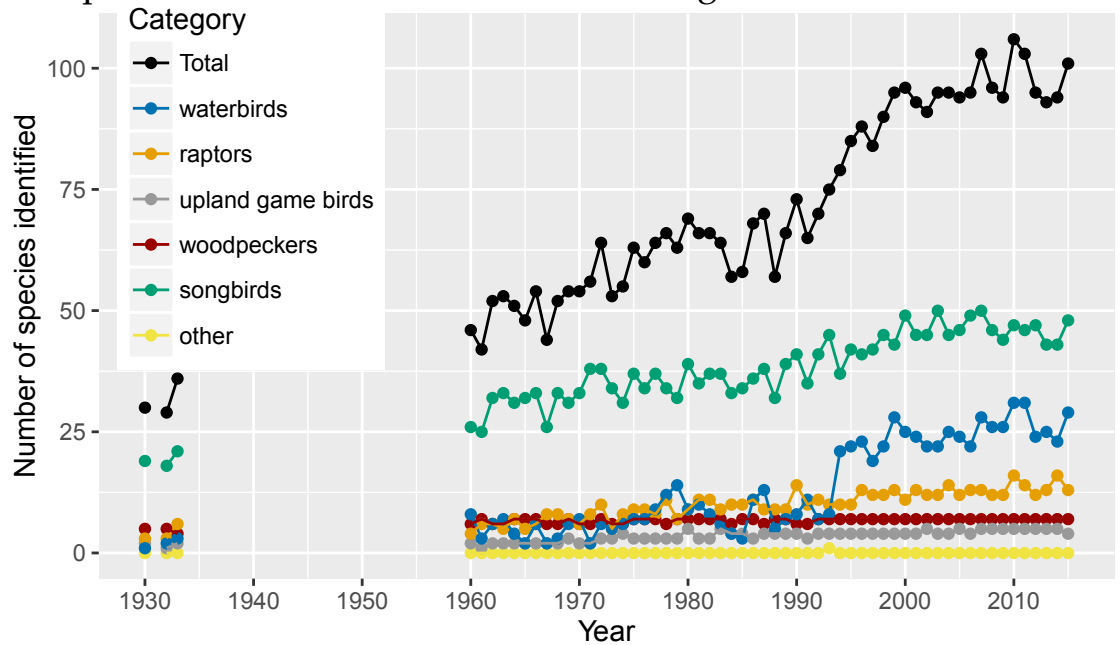


## Species

Species counts can be more difficult to pin down than one might think. The number should include wild species, but exclude domestics (such as chickens). Taxonomic designations that have flexed over time can add confusion. Birds not identified to the species level can count towards the species total if no species-level identifications were made in the same group that year. For example, 2015's "swan sp." counts towards the annual total of 102, because no Tundras or Trumpeters were IDed to species. This was the fourth year with a species count over 100, the others being 2007, 2010, & 2011.

My calculation puts the collective total over all years at 153.

This plot includes only species-level identifications, so the 2015 number is plotted at 101. Note the water bird increase in the early '90s.



**Commoners: Observed every year**  
 These species were recorded in 100% of the 59 count years. Median count, high count, & 2015 count shown.

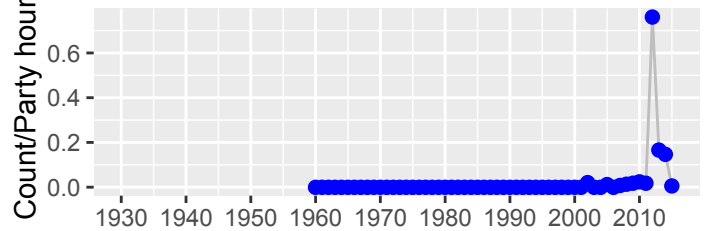
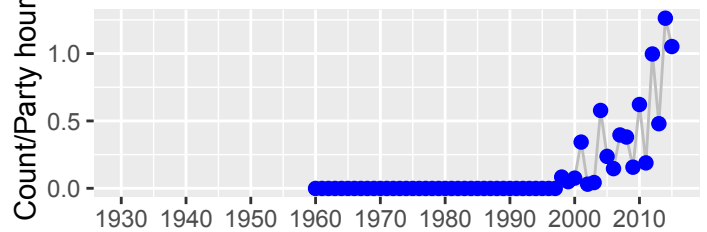
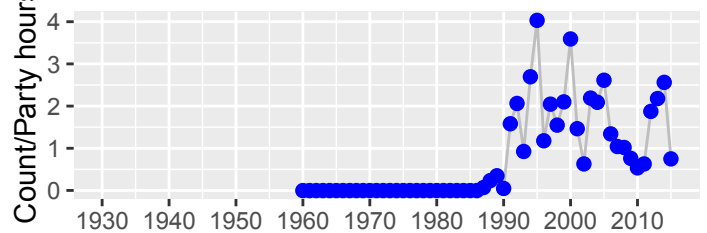
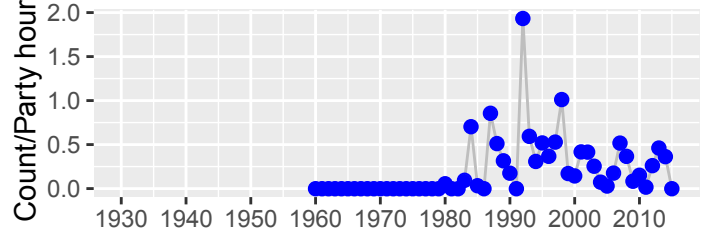
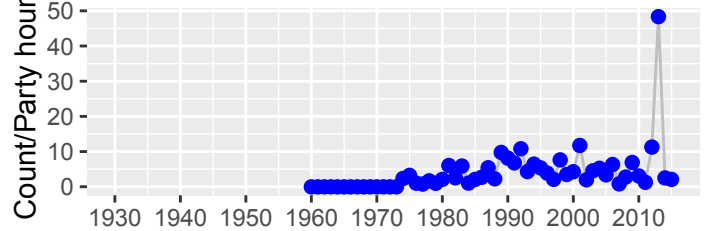
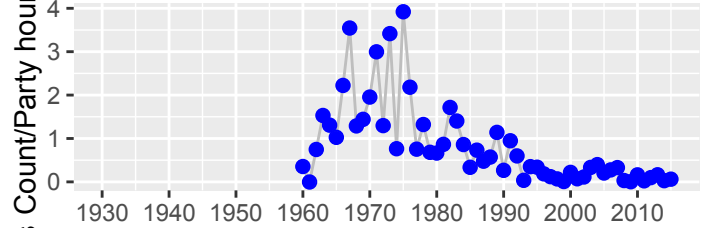
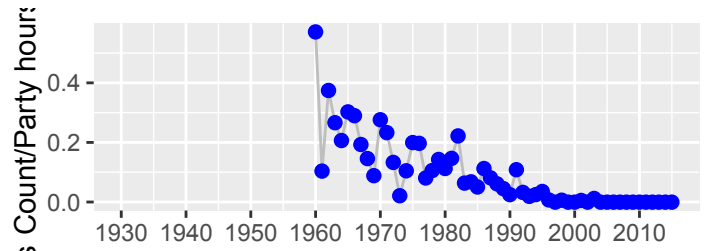
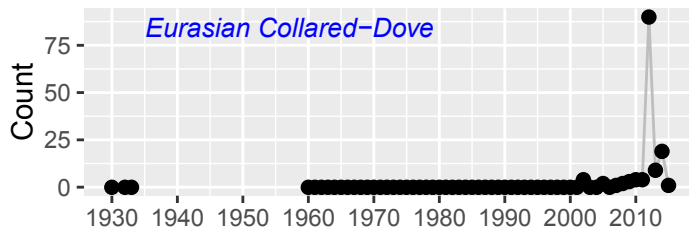
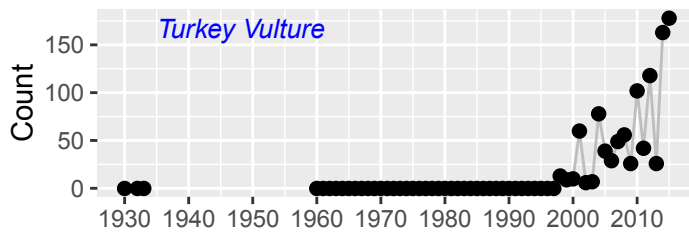
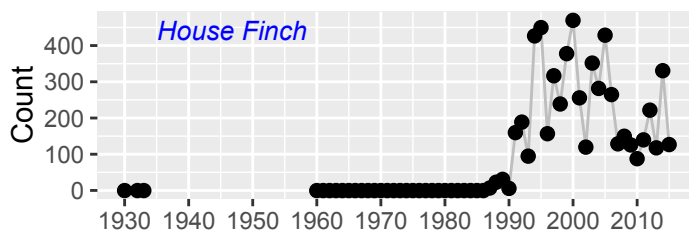
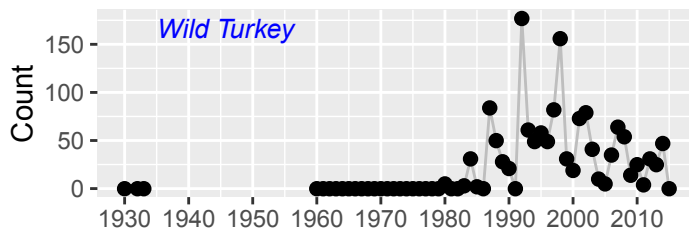
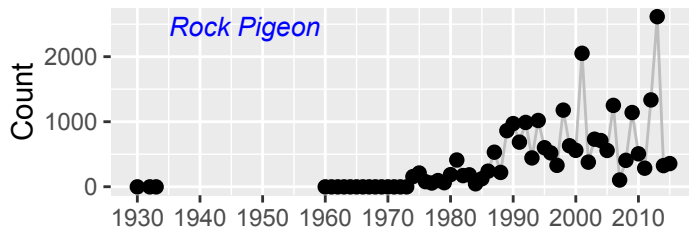
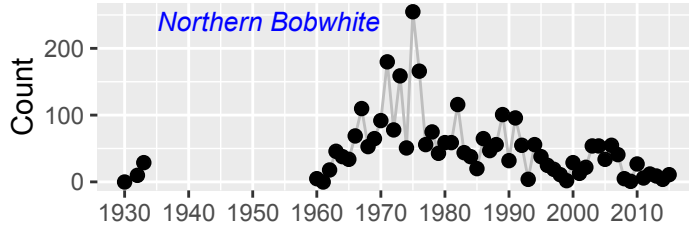
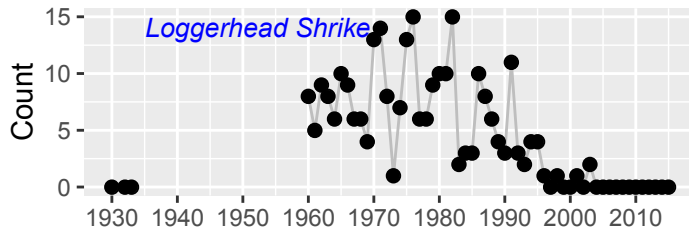
Species	Median	High	2015
Red-tailed Hawk	44	158	110
Red-bellied Woodpecker	103	319	284
Downy Woodpecker	101	249	183
Hairy Woodpecker	19	46	31
Northern Flicker	61	202	111
Blue Jay	392	1091	702
American Crow	187	935	255
Black-capped Chickadee	252	668	499
Tufted Titmouse	201	500	308
White-breasted Nuthatch	65	229	229
American Tree Sparrow	293	930	158
Dark-eyed Junco	1100	2510	1472
Song Sparrow	90	394	195
Northern Cardinal	580	1421	895
American Goldfinch	346	1056	420

**Rarities: Count week only**  
 Species observed up to 3 days before or after the count day, but not on count day itself, get an "honorable mention" in the official records with a "cw" (count week) designation, but no tally. The following have been recorded in the Columbia circle during count week, but never on an official count day:

- Great Egret (2014)
- Bewick's Wren (2000)
- Barn Owl (1980)
- Rose-breasted Grosbeak (1973)
- Yellow-headed Blackbird (1972)

## Species in flux

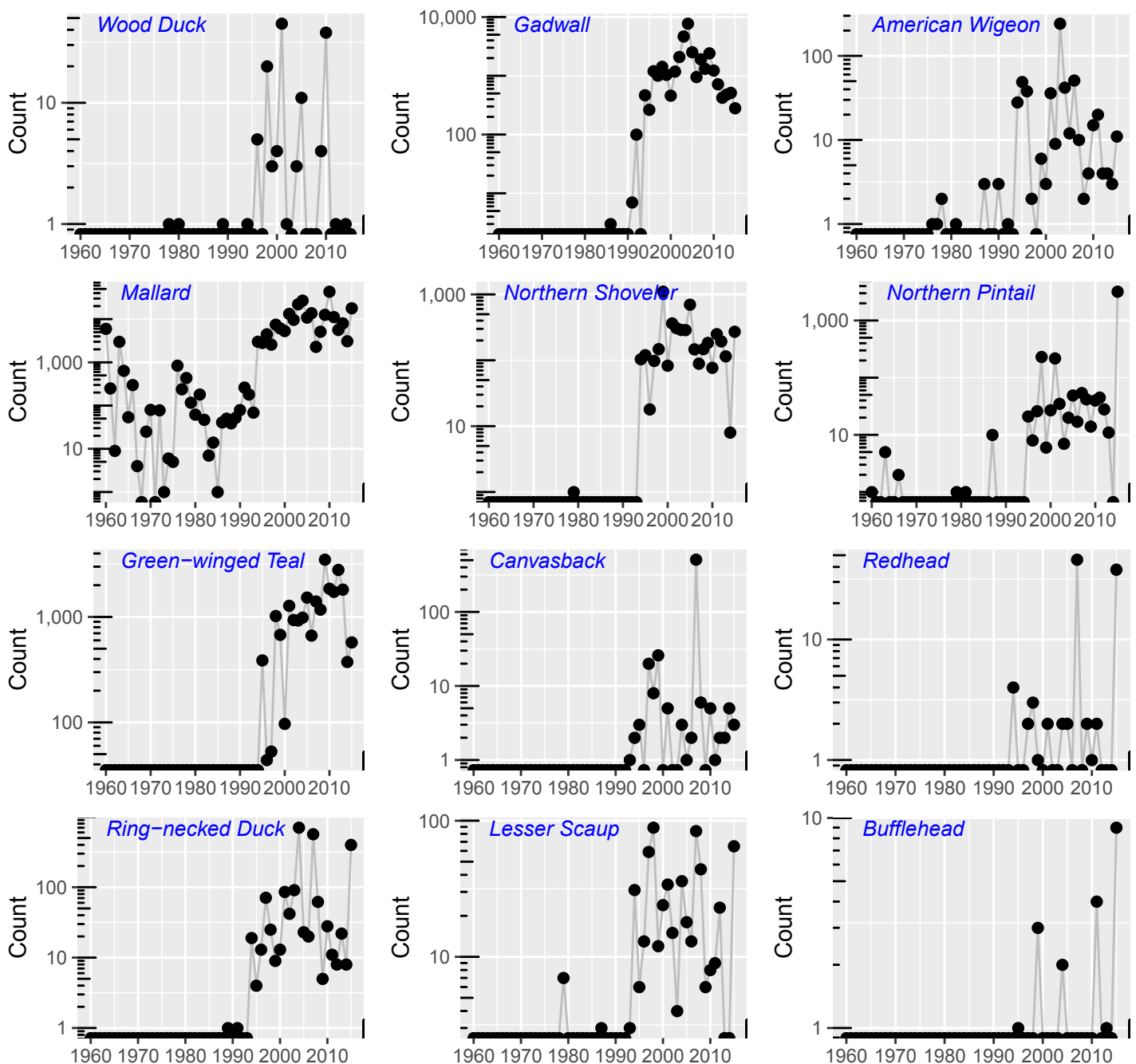
The varying levels of effort over the years can mask subtle population trends. Not all trends are subtle, though. One clear indicator of decline is a decrease in counts in spite of increased effort. Arrivals are also easy to identify. Here are examples:



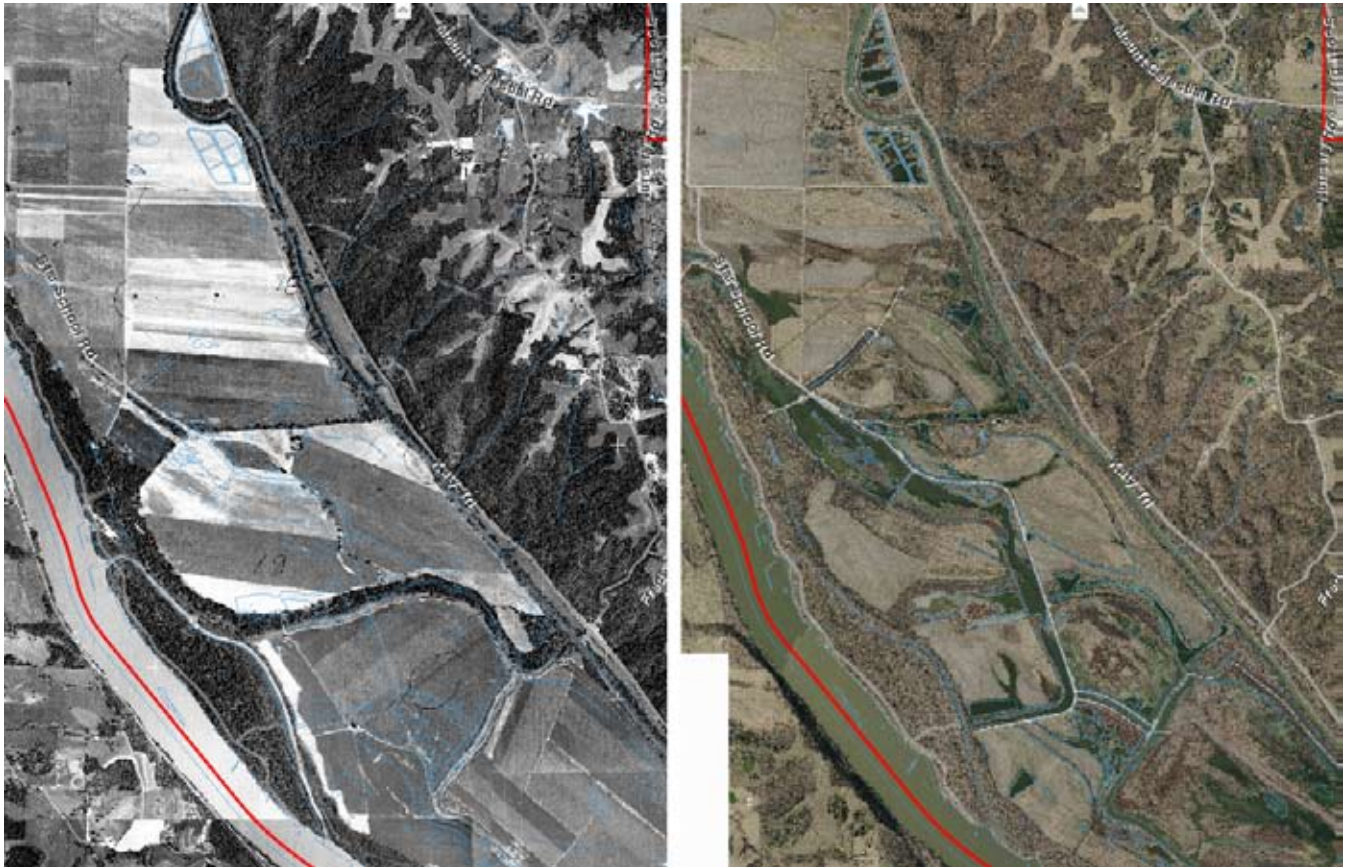
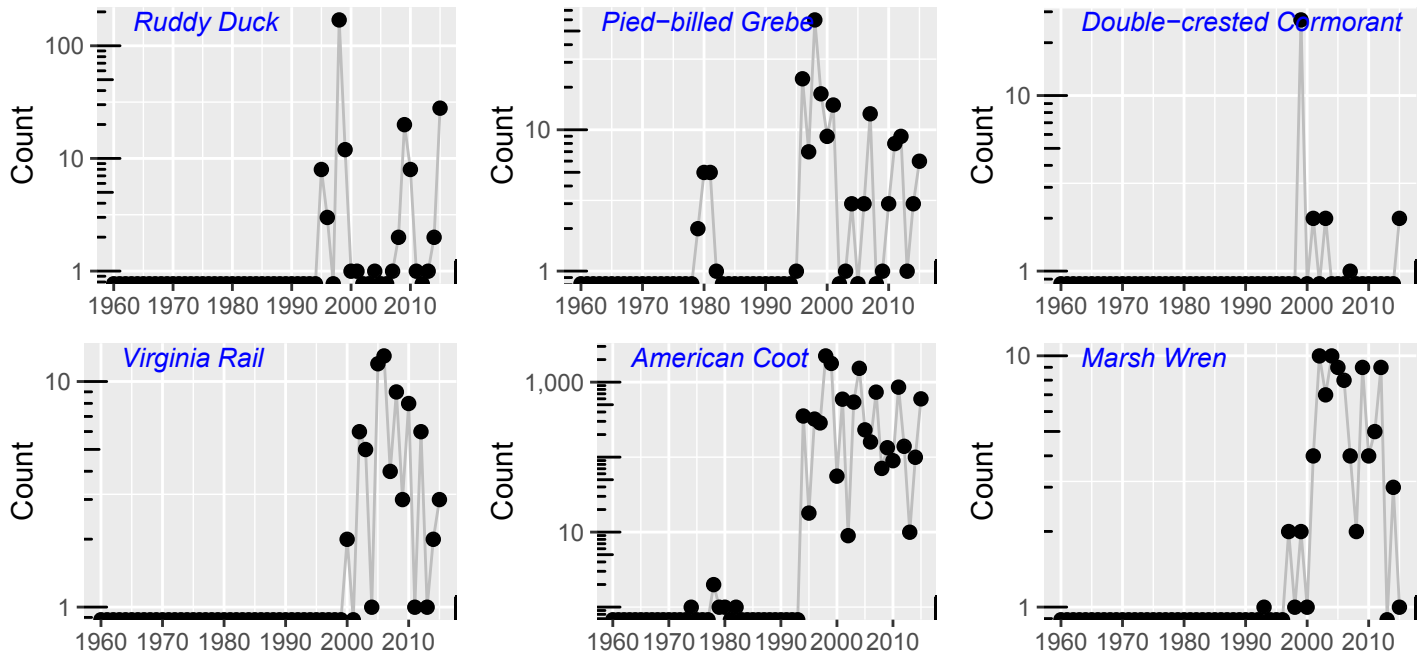
## Increase in waterfowl & other water birds since the early 1990s

An obvious and interesting pattern emerges from an examination of species counts over time. Specifically, beginning in the early 1990s, a number of water-associated species appeared for the first time, began to appear more regularly, and/or appeared in routinely higher numbers compared to earlier years.

The following plots are ones that I selected from all species to demonstrate this trend. In the interest of space, these are straight counts, not normalized for effort. Normalizing may not be equally effective at improving interpretability of the trends for all species, and some publications advise against normalizing for waterfowl, which tend to be seen in large numbers in localized areas; see: [http://www.scvas.org/pdf/primer\\_2.pdf](http://www.scvas.org/pdf/primer_2.pdf). The y-axis uses a log scale due to the high variability in count numbers.



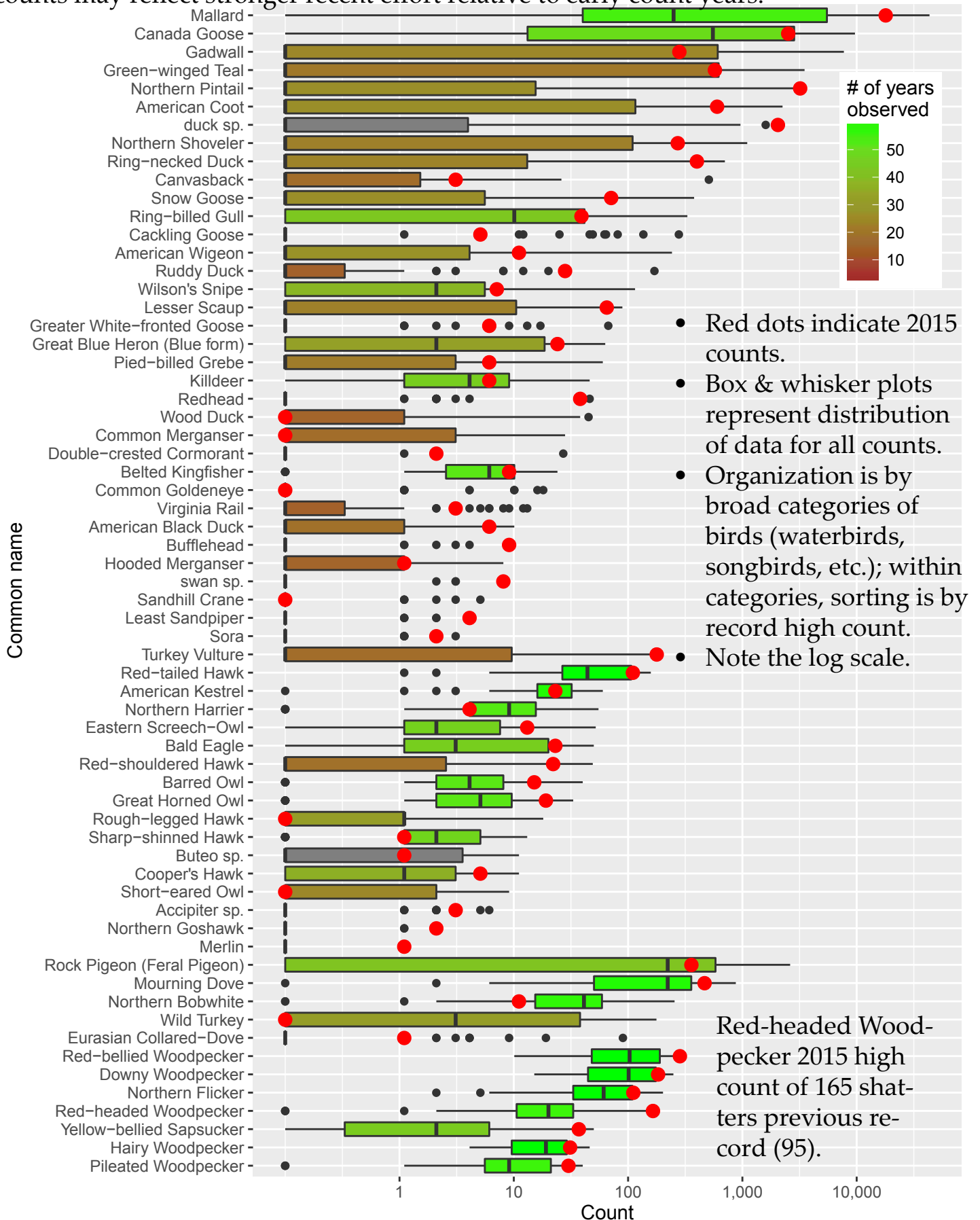


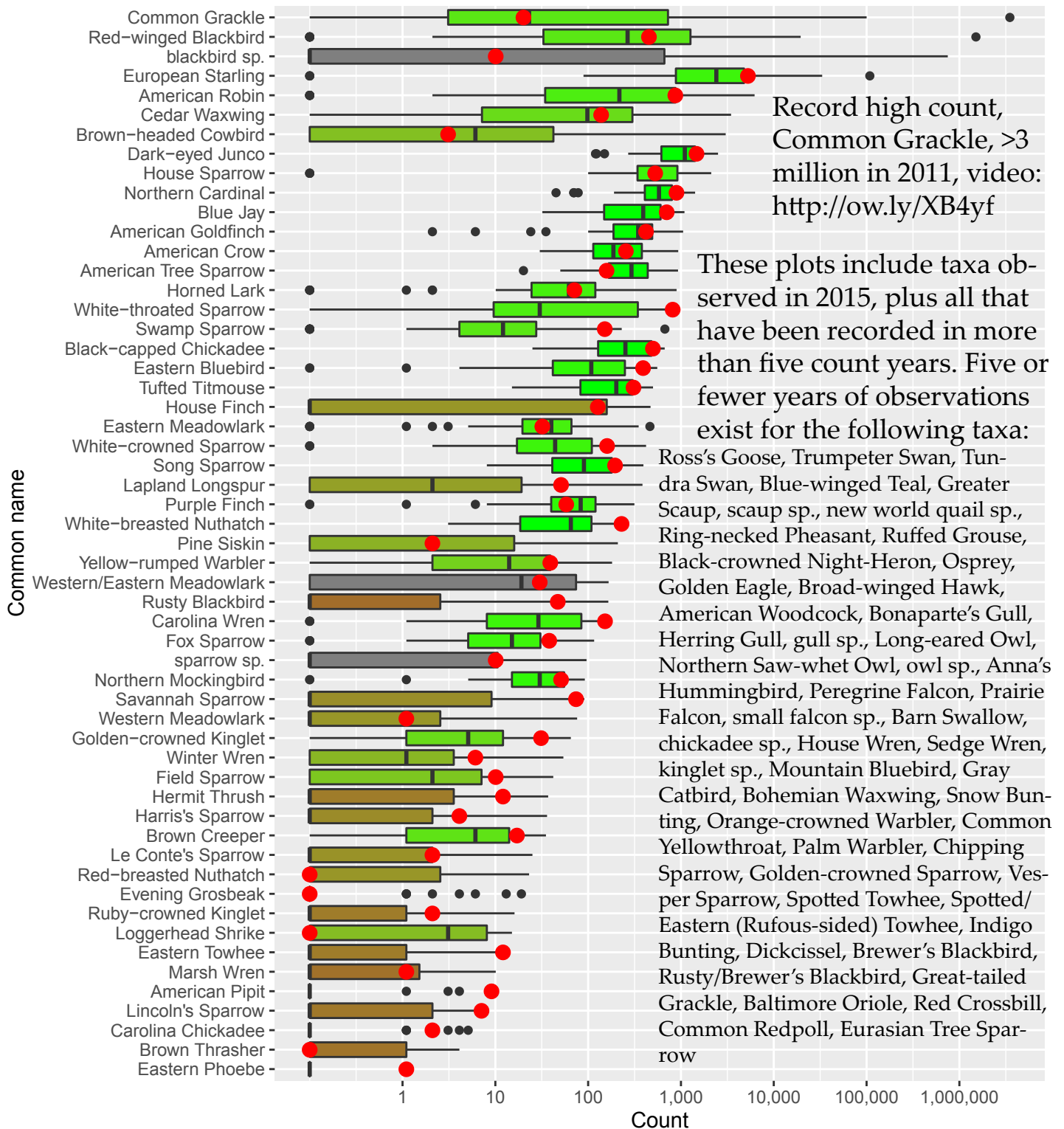


**1968 (left) & 2015 (right) air photos of Missouri River bottomlands, including the location of Eagle Bluffs Conservation Area. This section of the CBC circle experienced a land use change from farmland to managed wetlands. The transition occurred in the early 1990s in conjunction with construction of Columbia's sewage treatment wetlands:** [https://www.gocolumbiamo.com/PublicWorks/Sewer/wetlands\\_1.php](https://www.gocolumbiamo.com/PublicWorks/Sewer/wetlands_1.php)  
 Images from Boone County Aerial Photo Viewer:  
<https://www.showmeboone.com/GIS/viewers/viewers.asp>

## 2015 count data in the context of all count years

In the following plot, counts are not normalized for effort. Keep in mind that higher counts may reflect stronger recent effort relative to early count years.





Each year, many volunteer hours go into coordinating the count, leading sections, counting birds, compiling results, & submitting data. Thanks to everyone who makes this happen!

- all text and figures by Joanna Reuter

**2015-2016 FIELD TRIPS**  
**Lori Turner, Field Trip Chair**

**Finger Lakes SP & Rocky Fork Lakes CA**

**Date & Time:** Saturday, February 6th, 8:00 a.m to 12:00 p.m.

**Departure Point:** Moser's Foods (née Patricia's), 900 Keene St, Columbia, MO

**Leader:** Greg Leonard, 573-823-4759

We will explore these two reclaimed coal mining areas. There are several small lakes/ponds and one big lake that are sure to support waterfowl at this time of year. There's a small pine stand that has been known to have Red-breasted Nuthatches and even Crossbills and Redpolls, let's cross our fingers for those special birds!

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**3rd Annual Great Backyard Bird Feeder Crawl**

**Date & Time:** Saturday, February 13th, 8:00 a.m to 12:00 p.m.

**Departure Point:** Songbird Station, 2010 Chapel Plaza Court #C, Columbia, MO

**Leader:** Lori Turner, [loricatrips@gmail.com](mailto:loricatrips@gmail.com)

The 2015 Great Backyard Bird Count (GBBC) will take place Friday, February 12th through Monday, February 15th (learn more at <http://gbbc.birdcount.org>). This 3rd annual Feeder Crawl will start at Songbird Station where we'll count birds at their feeders, then 'crawl' to various backyard bird feeders in the Columbia area and count birds for at least 15 minutes, then submit each checklist to eBird. The trip will last 3-4 hours and return to Songbird Station for coffee and donuts.

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**Moniteau Creek Conservation Area**

**Date & Time:** Saturday, February 20th, 8:00 a.m to 12:00 p.m.

**Departure Point:** Target wing of the Columbia Mall, Columbia, MO 65203.

**Leader:** Eric Seaman, [eseaman68@yahoo.com](mailto:eseaman68@yahoo.com)

Moniteau Creek CA is 844 acres and comprised of forest, old fields, cropland, pasture, wetlands and prairies. We will be walking in from the east entrance. This entrance has the best chance at seeing waterfowl but it is uneven terrain and water-proof boots are recommended.

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**Lake Tour 2016 (rescheduled from 1/23 due to weather)**

**Date & Time:** Saturday, February 27th, 8:00 a.m to 12:00 p.m.

**Departure Point:** Songbird Station, 2010 Chapel Plaza Court #C, Columbia, MO

**Leader:** Lori Turner, [loricatrips@gmail.com](mailto:loricatrips@gmail.com)

We will leave Songbird Station's parking lot at 8 a.m. and visit as many lakes as we can in 4 hours or less in search of ducks and geese. Phillips, R-1, and Little Dixie Lake will be visited, along with other lakes around Columbia. We will end the trip at Songbird Station for coffee and donuts.

## 2015-2016 FIELD TRIPS, CONTINUED

Lori Turner, Field Trip Chair

### **Birding & optional work day at Chert Hollow Farm**

**Date & Time:** Saturday, March 5th, 7:30 a.m to 1:00 p.m.

**Departure Point:** Moser's Foods (née Patricia's), 900 Keene St, Columbia, MO. Meet at 7:30 a.m.

**Leader:** Eric & Joanna Reuter, [eric@chert hollow farm.com](mailto:eric@chert hollow farm.com), (573) 474-0989

Come explore and enjoy the many habitats and birding opportunities on our diversified farm 10 miles north of Columbia. We'll bird from 8-10 a.m., exploring riparian corridors, open pasture, woodland, and more. Then, from 10-noon, we'll hold an optional work session for those who wish to lend a hand in our ongoing habitat improvement efforts. At noon we'll serve a light farm-sourced lunch to thank those who stay to work. Please contact us by Wednesday March 2 if you're interested so we can plan for appropriate numbers. Also contact us if you're willing to lead the carpool from Columbia. Read more at [www.chert hollow farm.com](http://www.chert hollow farm.com)

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### **Happy Hollow Farm**

**Date & Time:** Sunday, April 24, 7:00 a.m to 12:00 p.m.

**Departure Point:** Columbia Mall parking lot near Wendy's, meet at 7:00 a.m.

**Leader:** Eric & Joanna Reuter, [eric@chert hollow farm.com](mailto:eric@chert hollow farm.com), (573) 474-0989

We'll travel 45 minutes south to this beautiful diversified farm nestled in the hills south of the Missouri River near Lupus. We hope to find many interesting birds taking advantage of the wide range of habitats from bottomland to hilltop. Trip is held on Sunday so that Farmer Liz can join us (no conflict with the Saturday farmers market). Read more at <http://www.happy hollow farm-mo.com>

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### **Prairie Garden Trust: Joint Field Trip with River Bluffs A.S.**

**Date & Time:** Saturday, May 7th, 7:00 a.m to 1:30 p.m.

**Departure Point:** Moser's Foods (née Patricia's), 900 Keene St, Columbia, MO

**Leader:** Lori Turner, [loricastrips@gmail.com](mailto:loricastrips@gmail.com)

Lorna and Henry Domke will guide us through the many native habitats that are maintained in this private nature area outside of New Bloomfield. We will explore the savanna area overlooking miles of forests, walk along Hillers Creek, explore the native prairies that are sustained by prescribed burns, and walk along the lotus ponds. If meeting at PGT be there by 8 a.m. For directions or to learn more about PGT please visit their website at <http://prairiegardentrust.org/>



Columbia Audobon Society wants to thank our corporate sponsor:

**Songbird Station**  
2010 Chapel Plaza Court, Suite C  
Columbia MO 65203  
[www.songbirdstation.com](http://www.songbirdstation.com) 573-446-5941

**Columbia Audubon Society**  
**P.O. Box 1331**  
**Columbia MO 65205**